



**ALBERTA INSTITUTE
OF AGROLOGISTS**

2020

Land Conservation and Management Practice Standard



Approved by the AIA Council

Date: October 7th, 2020

Preface

This practice standard is part of the continuing effort by the Alberta Institute of Agrologists (AIA) to meet its mandate as outlined in the *Agrology Profession Act*. The *Act* specifies that the Institute must establish, maintain and enforce standards of practice as part of the profession's obligation to protect the public in matters related to agrology.

This document was created by the AIA with direction from a Practice Area Expert Committee (PAEC) consisting of four regulated members of the AIA. Members were selected for their expertise and long-standing practice in land use planning and management.

This practice standard is the basis upon which practice reviews will be conducted by the AIA. This document will assist members in ensuring that their professional practice meets the standards for knowledge, work experience, skills and performance required for professionals practicing in land use planning and management.

This document will be reviewed on a periodic basis to ensure it is up to date with current standards and state of knowledge for the practice area.

Acknowledgments

The AIA wishes to acknowledge the following people for their contribution to this practice standard as members of the Practice Area Expert Committee for the *Land Conservation and Management* practice area:

Laura Blonski (P.Ag.)	Alberta Environment and Parks
Roger Bryan (P.Ag.)	Alberta Agriculture and Forestry
Dan Heaney (P.Ag.)	Random Cross Consulting Inc.
Brent Paterson (P.Ag.)	Acera Consult Inc.
Morris Seiferling (P.Ag.)	Morris Seiferling Consulting Ltd.

The committee was chaired by Les Fuller P.Ag. (AIA) and assisted by Leon Marciak P.Ag. (AIA).

The Alberta Institute of Agrologists wishes to thank the members of the AIA who reviewed the draft documents and provided feedback to the PAEC. The AIA would like to acknowledge the following people for their review of the first draft of the practice standard and for providing valuable feedback:

Murray Anderson P.Ag.	M.L. Anderson Advisory Service
Rowshon Begam P.Ag.	Alberta Agriculture and Forestry
Rod Bennett P.Ag.	Bennett Irrigation Management Ltd.
Karen Raven P.Ag.	Alberta Agriculture and Forestry

Photo Credits: Leon Marciak, Brent Paterson

Table of Contents

Preface	i
Acknowledgments.....	ii
List of Tables	iv
Acronyms.....	v
1. INTRODUCTION.....	1
1.1. Objectives.....	1
1.2. Definitions.....	1
2. SCOPE OF THE PRACTICE AREA.....	2
2.1 Applied Research	3
2.2 Legislation	3
2.3 Policy and Programs	3
2.4 Land Evaluation and Assessment.....	3
2.5 Planning	4
2.6 Implementation.....	4
2.7 Monitoring and Adaptive Management	4
3. KNOWLEDGE REQUIREMENTS	4
3.1 Core Knowledge Areas.....	5
3.1.1 Soils and Landscape.....	5
3.1.2 Vegetation.....	5
3.1.3 Animals.....	5
3.1.4 Water	6
3.1.5 Ecology	6
3.1.6 Socioeconomics.....	6
3.2 Required vs. Recommended Knowledge for the PA	6
4. WORK EXPERIENCE	8
4.1 Skill Set Requirements	10
5. PERFORMANCE REQUIREMENTS.....	11
6. RECOMMENDED READING MATERIAL	13
7. SUMMARY.....	16
APPENDIX A	17
APPENDIX B	22

List of Tables

Table 1. Core knowledge areas, required subject matter areas and recommended subject matter areas for the practice area	7
Table 2. Typical years of work experience and examples of job duties and responsibilities.....	9
Table 3. Skill sets relevant to the practice area	10

Acronyms

PA	Practice Area
PAEC	Practice Area Expert Committee

1. INTRODUCTION

This practice standard applies to regulated members of the Alberta Institute of Agrologists (AIA) who practice or intend to practice in the "*Land Conservation and Management*" practice area (PA). It defines expectations and outlines requirements regarding professional practice within this area. Documentation of these requirements provides necessary assurance to the public that AIA has specific requirements for professional practice. This practice standard provides members a benchmark upon which to assess their practice and identify potential learning needs in their continuing competence program.

This practice standard is based on the premise that land conservation and management are multidisciplinary activities. Practitioners are expected to understand the limit of their knowledge, skills and experience and seek expertise of other professionals where necessary.

This practice standard forms the basis for implementation of a practice review protocol for this PA. Members working within this PA will be able to request a review of their professional practice based on this practice standard. Such a review will provide valuable feedback to members for areas of improvement.

1.1. Objectives

The objectives of this practice standard include the following:

- To identify and define the knowledge, skills, experience and performance requirements for professional practice within the PA;
- To provide documentation of the requirements indicated above so regulated members of AIA may assess their practice against this standard and thereby identify learning needs to ensure they meet the standard;
- To provide a standard against which a member's professional practice may be reviewed by AIA to assist the member in identifying areas of their practice that may need improvement;
- To provide a mechanism whereby AIA can demonstrate that members within the profession are managed in a manner which protects the interests of the public in matters related to land use planning and management.

1.2. Definitions

Competence: The ability to perform certain tasks in one's professional practice based on educational training, skills and work experience in a manner that meets performance objectives as defined in a practice standard.

Core Knowledge Area: A general area of knowledge consisting of one or more specialized subject matter areas that is required for practicing within a PA.

Direct Supervision: Guidance provided by a competent professional who accepts responsibility for work conducted by a less experienced professional.

Experience: Knowledge, practical wisdom or skills gained from observation and doing.

Performance: The exercise of knowledge in a professional practice that demonstrates the required ethical conduct and wise judgment as specified within a practice standard.

Practice Area: A unique functional area of professional practice within the agrology profession that requires specialized knowledge, based on education, work experience and skill sets.

Practice Area Expert Committee: A committee of experts who have demonstrated through their professional practice that they have a comprehensive understanding of the requirements for professional practice in a PA.

Practice Review: A process whereby a peer review panel examines a regulated member's professional practice against a practice standard, with the intent of providing input on practice improvement.

Practice Standard: A document that outlines the requirements and expectations for professional practice within a PA.

Professional Practice: The competent and ethical provision of specialized knowledge, recommendations and assessments based on educational training, work experience and skill sets while being accountable to peers as a regulated member of a professional regulatory organization.

Regulated Member: A member in good standing with the Alberta Institute of Agrologists who holds one of the following designations: PAg, RTAg, AIT or ATT.

Skill: An ability developed over multiple years of work experience.

Subject Matter Area: A specialized area of knowledge such as soil chemistry, plant physiology or hydrology required for professional practice within a PA.

2. SCOPE OF THE PRACTICE AREA

Land conservation and management requires an integrated system-based approach that strives to meet environmental, social, and economic needs of current generations while sustaining the land, water and natural resources in a manner that does not compromise future generations. A key principle of this practice area is land stewardship with a focus on conservation. This requires an understanding of our lands, the natural resources, ecological processes and ecosystem services they provide and the cumulative effects of past, present and foreseeable future activities. Land conservation and management involves setting sustainable outcomes, planning and making decisions to achieve these outcomes, monitoring and assessing the results of these decisions and using adaptive management approaches to achieve outcomes. It recognizes the interdependence and interaction of all system parts. Land management approaches must assess whether land management decisions are achieving desired outcomes, while also being agile and responsive to changing economic, environmental and social conditions.

Agrologists working in this practice area develop, lead or support land and natural resource decisions within integrated systems guided by various overarching policies and legislative tools. These Agrologists rely not only on their own technical knowledge and expertise, but also on the knowledge and expertise of other professionals within and outside the practice area, or even the Agrology profession (e.g., professional foresters, biologists, and engineers, etc.). This practice area requires collaboration and the ability to communicate effectively in order to synthesize and systematically interpret information correctly for decision-making purposes.

This practice area is complex as stakeholders and the public may expect this systems approach to resolve conflicts, and ensure understanding, transparency and inclusiveness of those affected. This complexity recognizes that our lands are used for more than one purpose, some uses being compatible with others, some not. Ongoing relationship building is fundamental to working in this practice area. As such, practitioners require strong communication, mediation and conflict resolution skills to present clear and concise technical information tailored to those affected (e.g., landowners, municipalities, indigenous peoples, resource managers, general public, other professionals etc.). These skills are also important in order to collect and analyze scientific and traditional knowledge, create shared understanding of issues, provide options to address them,

and recognize diverse expectations. This creates transparency in both the process and rationale used in making land use decisions.

Agrologists working within this PA may be involved in one or more core activities. These core activities may overlap with other Practice Areas. These core activities include,

- Applied Research;
- Legislation;
- Policy and Programs;
- Land Evaluation and Assessment;
- Planning;
- Implementation; and,
- Monitoring and Adaptive Management.

These activities vary in type and depth of knowledge required to be proficient and practitioners may be involved in one or more of these depending on their knowledge, experience and skill sets.

2.1 Applied Research

Agrologists actively participate in land and natural resource research in order to support land management decision making. They work in specific disciplines and/or coordinate the work of multi-disciplinary teams. Topics in land research may comprise economic science, social science, as well as natural sciences. In many instances, the Agrologist presents and publishes research findings within their specific discipline. This research may also be applied through knowledge transfer and extension to interested members of the public, resource managers, research institutes, industry and funding agencies.

2.2 Legislation

Federal, provincial and municipal legislation govern a wide array of activities on land. Agrologists may participate in developing and implementing this legislation through a variety of duties and tasks. They are required to make professional decisions within this legislative framework and/or to correctly interpret, comply with, and enforce its requirements within their sanctioned or designated legislative authority. At times, Agrologists may be required to provide expert advice to the public, stakeholders, indigenous communities, courts, boards or panels.

2.3 Policy and Programs

As policy and programs guide how land and natural resource legislation is implemented, Agrologists may participate in the development, administration and implementation of these policies and programs. In this capacity, Agrologists use their knowledge and expertise to inform policies and programs that support land stewardship and public interest principles.

The development and implementation of policy and programs are often a multi-disciplinary exercise where legislators, politicians, professionals, members of the public, stakeholders and other interested parties provide input through a variety of means and forums into their development. The Agrologist may analyze, review, and synthesize input received and recommend a specific policy or program context, direction and implementation strategies.

2.4 Land Evaluation and Assessment

Agrologists may be required to provide a professional assessment of a land parcel. This may range from individual parcels (site-specific, quarter sections, or specified planning units) to larger land groupings (landscapes, county or larger regional areas, ecological delineations, watersheds). Evaluations for specific purposes include land capability for agriculture, suitability for crop and livestock production, reclamation suitability of soils, etc. Agrologists working in this

PA play a key role in landscape evaluation, which may include soil and terrain, vegetation, water, as well as conducting assessments and ratings for the purposes of soil salvage and conservation for site development purposes. This often includes erosion assessment and mitigation planning to facilitate the conservation of soil resources and associated land productivity. These assessments may follow a systematic procedure developed and endorsed by professional groups or agencies. Land evaluation may also include collaborative decision-making with other professionals to ascertain values for other priorities, ecosystem services and requirements for long-term ecosystem function.

2.5 Planning

There are many levels of land use planning in Alberta, including federal, provincial and municipal; all having their own legislative framework. An Agrologist working in land use planning may act as a lead planner or participate as a planning team member on a multi-interest (e.g., fish and wildlife, forestry, agrology) and/or multi-jurisdictional planning team. In these cases, the Agrologist brings forward both their expertise in Agrology, for consideration by the planning team and also works towards achieving consensus on solutions that meet the multi-interest/multi-jurisdictional needs of the team (e.g., land stewardship, appropriate development, public interest.)

Through the planning process, Agrologists may have to consider diverse input and views from the public and stakeholders. As a result, the Agrologist must develop strong communication, mediation and conflict resolution skills to present clear and concise technical information tailored to those affected, create shared understanding of issues and options to address them, and recognize diverse stakeholder expectations to ensure that consultation efforts are thorough and effective. They lead or assist efforts in decision-making that help ensure a balance of conservation and development that considers land stewardship and public interest principles.

2.6 Implementation

Once land use plans are completed, they enter the implementation stage. Agrologists may be responsible for leading and managing the implementation or aspects of its various components. The implementation of a plan's components requires a broad set of skills, including, managing budgets, allocating human resources, providing technical advice/experience, and strategic leadership and liaise and coordinate consultation with stakeholders, the public, indigenous communities and decision makers to ensure the plan's activities are carried out as prescribed.

2.7 Monitoring and Adaptive Management

To assess the success of the land management plan, the Agrologist, individually or as part of a planning team, develops or contributes to the development of monitoring frameworks, plans and metrics, monitors, measures and evaluates critical components of the plan prescriptions and subsequent actions. Monitoring and measuring results require that the outcomes specified by the plan are realized at the appropriate planning scale. The ongoing evolution of the plan requires the Agrologist and planning team to use an adaptive management approach. A key component of applying adaptive management is to determine and evaluate whether specific objectives are being implemented as required, and whether they are being achieved. Where adverse or unplanned for consequences of those objectives are anticipated, mitigative measures or next steps will need to be determined. Adaptive management is a continuous process where resource managers and planners collectively strive to meet the plan's goals and outcomes through implementing corrective actions as necessary utilizing an integrated, multi-systems based approach.

3. KNOWLEDGE REQUIREMENTS

Knowledge requirements are technical or scientific areas of knowledge that are required for a practitioner to be functional within the PA and are strongly associated with a member's educational background and training. These requirements include core knowledge areas that

consist of one or more subject matter areas that are foundational to the PA. The specification of subject matter areas within each required core knowledge area provides assurance that members working within a PA are aware of the knowledge required to provide professional services within the PA. Members are required to assess their knowledge against the core knowledge requirements; recognize limits of their expertise; and seek direction and guidance from qualified professionals in areas where their own knowledge may be lacking.

3.1 Core Knowledge Areas

Several core knowledge areas have been identified as being foundational to practice within the PA (Table 1). Core knowledge areas identify technical/scientific knowledge that is required for a professional to be functional within the activities described in Section 2. These core knowledge areas include,

- soils and landscape;
- vegetation;
- animals;
- water;
- ecology; and,
- socioeconomics.

3.1.1 Soils and Landscape

Soil is the primary building block on which all landscape and ecological systems are sustained. Understanding the landscape context and geographic distribution of soil development, soil properties (physical, chemical, biological) and how these influence the spatial arrangement of land capabilities are fundamental knowledge for this PA. Sustainable ecological and economic production from land is dependent on healthy and sustainable soils. A knowledge of soils is required to understand landscape ecology as well as production and ecological capabilities and limitations of various land use systems.

3.1.2 Vegetation

A knowledge of plant ecology, including the factors that drive plant distribution and plant community development is important for understanding how land use affects this resource. Alterations in land capability (either enhancement or degradation) in response to proposed land use changes have a direct effect on the ability of the land to support plant growth. Plants are varied in growth form (grasses, forbs, shrubs, trees), regional distribution, economic value, and the provision of ecosystem services. Agrologists need a background in plant science to understand vegetation responses to land use changes.

3.1.3 Animals

Domestic livestock are often a major component of economic output from and impact to the landscape, vegetation and resource. In addition, wildlife and wildlife habitat are also of value to society at large beyond their economic or recreational value. A working knowledge of livestock and wildlife requirements, their interactions as well as their economic and ecological impacts is important for this PA. Important concepts include the land's animal carrying capacity, animal behavior, and functional role in the ecosystem. Agrologists must be familiar with the effects of natural features and management tools that can influence animal distribution within the landscape. Agrologists working within this PA often work closely with Agrologists specializing in the Rangeland and Pasture Management PA and the Crop Production PA in addition to other professionals outside the Agrology profession (e.g., foresters, biologists, etc.).

3.1.4 Water

Water is intimately connected to land. Both water quality and water quantity are directly and indirectly affected by land use as land acts to capture, store and filter water as well as provide for its release to downstream users. A knowledge of water and its relationship to production and ecological parameters is required for this PA. Water interactions among landscapes and therefore, decisions on one land area may have impacts on others downstream and within the entire system. Agrologists play a key role in identifying impacts of point and non-point sources on water quality from agricultural operations, developing and implementing mitigation strategies and understanding how cumulative land use effects influence water quality and quantity.

3.1.5 Ecology

Ecology refers to the study of the dynamic interaction between the various components and trophic levels that make up an ecosystem, including human elements of the landscape. Land management requires an integrated, system-based view of the landscape. Agrologists in this PA must understand how the various components of ecosystems within a landscape interact and how this affects the ability to achieve multi-generational and sustainable management objectives while striving to retain overall ecosystem function.

3.1.6 Socioeconomics

Land produces economic value that is direct and consumptive in nature, while at the same time provides ecological goods and services that provide value to a broader society. Agrologists must understand both direct and indirect economic values of the products from land and the potential impact of externalities on sustainability (e.g., cumulative effects of industrial development and other uses). An understanding of both the present and future social and cultural context is important to achieving sustainable management.

3.2 Required vs. Recommended Knowledge for the PA

Each of the core knowledge areas listed above consist of one or more subject matter areas. Subject matter areas consist of both required subject matters and recommended subject matters. Required subject matters represent the minimum credible knowledge required for the given core knowledge area. These subject matters are mandatory for members who wish to provide professional advice or services related to the core knowledge area.

Recommended subject matters represent knowledge that is not mandatory but provides increased depth of knowledge related to core knowledge areas. These subject matters have been identified to provide members with direction for their continuing competence program.

The subject matters within each core knowledge area represent areas of study equivalent to a three-credit course in a post-secondary educational institution. Subject matter knowledge is normally obtained through educational training in a degree or diploma program; however, knowledge in certain subject matter areas may be obtained via industry courses, work experience, self-study and mentorship. To assure the public that practitioners have acquired knowledge via work experience, self-study or mentorship, knowledge needs to be validated through a challenge exam process implemented by the AIA.

It is the responsibility of members to review Table 1, conduct self-assessments and identify how their knowledge and expertise aligns with the required subject matters. Members who do not meet a required subject matter within a core knowledge related to their professional practice, will be required to address the deficiency before practicing unsupervised in relation to that core knowledge area. In such situations, members will be required to do one of the following:

1. Seek Advice and Direction: Members lacking specific knowledge in required subject matters must recognize the limits of their expertise and seek advice and direction from a qualified professional.

2. Complete Challenge Exam(s): To validate that subject matter knowledge has been gained through work experience, self-study or industry courses, a member may choose to either (i) write a professional practice examination supplied by the AIA; or, (ii) to appear before a panel of peers to complete an oral examination supplied by the AIA.
3. Pursue Formal Education and Training: Obtain credit in a formal course from an appropriate educational institution or from an industry course approved by the AIA. Such courses must have an adjudicated examination to document knowledge attained.

Table 1. Core knowledge areas, required subject matter areas and recommended subject matter areas for the practice area

Core Knowledge Area	Required Subject Matter Areas	Recommended Subject Matter Areas
Vegetation	<ul style="list-style-type: none"> • Introductory Plant Science OR Botany • <i>And at least one of the Recommended Subject Matter Areas</i> 	<ul style="list-style-type: none"> • Plant Identification/Taxonomy • Plant Physiology • Disease and Pest Management • Plant-Animal Interactions • Invasive Species and Weeds • Plant Ecology • Rangeland Management
Soils and Landscape	<ul style="list-style-type: none"> • Introductory Soil Science • <i>And at least one of the Recommended Subject Matter Areas</i> 	<ul style="list-style-type: none"> • Soil Genesis and Classification • Soil Conservation and Management • Land Evaluation • Soil Fertility • Soil Physics • Soil Chemistry • Soil Biology • Land Capability Assessment • Landforms and Geomorphology • GIS • Remote Sensing
Animals	<ul style="list-style-type: none"> • Introductory Animal Science OR Zoology 	<ul style="list-style-type: none"> • Animal Physiology • Wildlife Management • Livestock Production Systems
Water	<ul style="list-style-type: none"> • Introductory Hydrology OR Hydrogeology 	<ul style="list-style-type: none"> • Soil Physics • Watershed Management • Wetlands and Riparian Areas
Ecology	<ul style="list-style-type: none"> • Introductory Ecology • <i>And at least one of the Recommended Subject Matter Areas</i> 	<ul style="list-style-type: none"> • Ecophysiology • Plant Ecology • Disturbance Ecology • Restoration Ecology

		<ul style="list-style-type: none"> • Riparian Ecosystems • Fire Ecology and Management • Landscape Ecology • Forest Ecology • Wildlife Ecology • Range Ecology
Socioeconomics	<ul style="list-style-type: none"> • Introductory Economics OR Introductory Sociology 	<ul style="list-style-type: none"> • Conflict Resolution • Natural Resource Economics or Agricultural Economics • Environmental Law • Environmental Policy • Rural Development
<p><i>Knowledge of a subject matter area may be based on an individual course or be part of multiple courses. For example, knowledge in hydrology may be obtained via a hydrology course or through portions of other courses such as soil physics, soil and water conservation, or watershed management courses.</i></p>		

4. WORK EXPERIENCE

Work experience represents a source of knowledge that is gained through professional practice and augments and is distinct from educational training. Work experience facilitates development of skill sets and attainment of knowledge needed to be competent within one's practice. Development of these skill sets and knowledge takes time working in an environment where feedback is available to hone one's skills and experiential knowledge.

Three levels of work experience are recognized within this practice standard. These include:

- a) Junior Level (0 to < 5 years) – The junior level of experience coincides with entry level personnel who have recently graduated from an appropriate educational program or have recently begun offering professional services in the PA. This work experience is conducted under direct supervision by a qualified practitioner. Practitioners at the junior level are considered to have insufficient experience to provide unsupervised professional services.
- b) Intermediate level (5 to < 10 years) – The intermediate practitioner and has developed the necessary skills and obtained the necessary experiential knowledge to take responsibility for their work and provide unsupervised professional services within the limits of their expertise.
- c) Senior level (≥ 10 years) – Senior level practitioners are those that have at least 10 years of work experience and generally provide supervision to intermediate and junior staff. They are often recognized as knowledge experts by their peers and take responsibility for decision-making.

Members will strive to ensure that they have sufficient work experience to conduct the work and accept responsibility for the work they do. The time frames indicated in Table 2 are provided for guidance. Individual career progression and work experience may vary from these time frames.

Table 2. Typical years of work experience and examples of job duties and responsibilities.

Level of Experience	Examples of Typical Job Duties	Key Responsibilities
Junior (typically < 5 years)	<ul style="list-style-type: none"> • Conducting supervised literature search, data gathering and data interpretation • Conducting supervised biophysical inventory and assessment • Conducting supervised land assessments and ratings • Participating in supervised stakeholder consultations • Writing supervised management plans 	<ul style="list-style-type: none"> • Assist with field work, data collection, entry and some reporting. • Supervised and mentored/coached by an intermediate or senior practitioner • Developing field skills • Develop basic communication and engagement skills with stakeholders • Learning to understand land management drivers • Conflict resolution and negotiation • Developing basic conflict resolution and negotiation skills
Intermediate (typically 5 to 10 years)	<ul style="list-style-type: none"> • Conducting unsupervised data analysis, evaluation and interpretation • Building decision making algorithms for land resource management and planning. • Writing management plans • Leadership in integrated management planning • Planning and conducting unsupervised field work • Mentoring/training junior staff • Working with senior staff to report recommendations and results • Leading stakeholder consultations • Conflict resolution and negotiation 	<ul style="list-style-type: none"> • Responsible for organizing field work and ensuring data quality • Management planning and regulatory compliance • Professional sign-off as required • Advanced communication and engagement skills with stakeholders
Senior (typically > 10 years)	<ul style="list-style-type: none"> • Lead planning and management • Training and mentoring juniors and intermediates • Field work as required; often focused on highly technical or conflict situations • Responsible for final land use recommendations 	<ul style="list-style-type: none"> • Responsible for professional sign-off as required • Overall personnel, program and budget management and supervision

	<ul style="list-style-type: none"> • Lead monitoring programs to assess land use implementation strategy success • Lead adaptive management to modify and enhance land use strategies based on monitoring feedback 	
--	--	--

4.1 Skill Set Requirements

Certain skill sets and capabilities enhance proficiency within a given PA. Application of scientific and technical knowledge requires skill sets which are identified within this practice standard. Skill sets are essential to functioning effectively within the PA and are generally developed during work experience, mentoring and/or gained through professional development courses.

Table 3. Skill sets relevant to the practice area

Skill Sets	Description
Well-developed public speaking, presentation, extension, facilitation and engagement skills	Agrologists in this practice area perform a critical role in effectively translating and communicating scientific and other knowledge to a variety of users. They also facilitate the gathering and synthesizing feedback and information gathered from diverse groups.
Relationship building with clients, stakeholders and Indigenous peoples	This skill set relates to establishing and maintaining relationships and communications with clients, stakeholders, Indigenous peoples and regulators. Communication is essential to ensure that land management drivers are accounted for, and incorporated into, management objectives and client, stakeholder and regulator expectations are addressed. It is important to foster and maintain collaborative partnerships with colleagues both within and outside the profession of Agrology.
Negotiation, mediation, consensus building and conflict resolution	These skills are necessary for dealing with resolution of land and natural resource conflicts and challenges.
Regulatory and policy understanding and application	It is important to understand the legal framework, including legislation, standards, guidelines, policies, codes of practice, beneficial management practices, and standard operating procedures that establish the regulatory context for land management.
Planning and management	This skill set is required to ensure stakeholders' expectations are properly considered within the context of sustainable approaches which balance economic returns and social benefits with long term productivity and ecosystem function. It includes proposal and budget preparation, revenue and cost tracking, development and implementation of a management and/or project

	plan, ongoing assessment of alignment with plans and objectives; change and cost management; project integration and completion.
Geographic information systems and spatial data analysis.	Land is a complex bio-geo-climatic entity requiring spatial analysis tools to capture and integrate many resource attributes. The ability to gather, process, analyze, display and interpret various land use themes for stakeholders is an important skillset for this practice area. While Agrologists may not necessarily process or analyze the data, they should have an understanding of the principles and source data.
Sampling, data collection, data management, validation and storage	This skillset is required to ensure data meets quality standards by using documented sampling, analytical, and data management protocols to ensure data are credible and defensible.
Documentation and reporting	Documentation of rationale for decisions made and conclusions drawn is a key requirement of professionalism. Clearly expressing results and professional opinions based on supporting data in an appropriate format and appropriate refereed literature is an important skill for the practitioner.
Ethical practice	Members adhere to the Code of Ethics for the profession as they make recommendations to their clients. The Code of Ethics states, " <i>The Profession of Agrology demands integrity, competence and objectivity in the conduct of its members while fulfilling their professional responsibilities to the public, the employer or client, the profession and other members.</i> " (See Appendix B)

5. PERFORMANCE REQUIREMENTS

This practice standard not only identifies educational, work experience and skill set requirements for competent practice but also defines the performance expected of regulated members participating in the PA, in addition to the General Practice Standard that applies to all AIA members (see Appendix 1).

The following performance requirements outline the expectations of the professional practicing within the *Land Conservation and Management* PA. Failure to comply with these expectations may be considered as constituting unprofessional conduct under the *Agrology Profession Act*.

Regulated members stay current with research, legislation, directives, guidelines, industry standards and reference documentation related to the practice area.

Regulated members:

- regularly review the currency of documentation and reference material used to support their practice and obtain most current versions when available.
- attend and/or provide presentations related to your specific work in land management at regional, provincial, national and international conferences, workshops, meetings, webinars, etc.

- communicate with regulators, research scientists, educators and other practitioners to ensure they remain current with current land management knowledge and trends as well as know and understand the legislative requirements they work within.

Regulated members understand the limits of their knowledge, skills and experience and seek the expertise of other professionals where necessary.

Regulated members:

- make appropriate scientific, technical, practical and logistical decisions based on their education and experiential knowledge in land management.
- apply their skills and use sound judgement in an ethical manner.
- seek advice and input from other professionals when their expertise is insufficient to make competent decisions and recommendations.
- do not conduct work that is beyond their expertise and work experience level unless they conduct the work under the direct supervision of a qualified regulated professional.

Regulated members clearly understand their role within the practice area

Regulated members:

- clearly understand their role in the practice area, represent themselves as such and do not exceed the boundaries of that role.
- sign and seal only those plans, reports, and other documents for which the members are professionally responsible, and which were prepared by or under the direction of the member.

Regulated members clearly understand a project's scope and terms of reference and ensure alignment with the execution of a project management plan.

Regulated members:

- document and understand the objectives, scope and deliverables, and work within the terms of reference, legislative framework or client contract.
- use a consistent and thorough process for management and evaluation.
- regularly review the management plan to determine changes needed in a dynamic system for ensuring alignment with goals, objectives, regulatory requirements and changing environmental and economic conditions.
- regularly engage with clients, stakeholders, and employer regarding the scope and land management objectives and adapt and document any changes as required.

Regulated members make decisions and recommendations based on refereed science and established professional and common-sense practice.

Regulated members:

- understand that one management approach is not applicable to all situations.
- exercise caution when promoting extraordinary changes in approaches to land management.
- strive to balance production with ecology and maintain practice and/or recommendations within a reasonable deviation from established norms.
- use applicable tools and processes to provide recommendations.

Regulated members review the requirements of this practice standard and address any practice deficiencies through their ongoing continuing competence program.

Regulated members:

- conduct self-assessments based on the education, work experience, skill set, and performance requirements indicated within this practice standard.

- review their self-assessment with a senior qualified professional.
- identify any deficiencies and develop a plan to address them.
- regularly participate in the AIA continuing competence program as required by the *Agrology Profession Act*.

6. RECOMMENDED READING MATERIAL

The following is a list of some recommended reading material relevant to the *Land Conservation and Management PA* in Alberta. It is not intended to be an exhaustive list.

Books and Journals:

Alberta Agriculture and Forestry. Weeds of the Prairies. Agdex 640-4
Alberta Government. 2014. Efficient Use of Land Implementation Tools Compendium. ISBN No. 97894601-1870-1 (Print Edition). ISBN No. 97894601-1870-9 (Online Edition). Printed July 2014.
Alberta Government. 2012. Integrated Land Management Tools Compendium. ISBN No.978-7785-8902-0 (Online Edition). Pub. No. I/422. June 2012.
Alberta Government. Describing the Integrated Land Management Approach. ISBN No.978-7785-8902-0 (Online Edition). Pub. No. I/422.
Bedunah D.J. and R.E. Sosebee (eds.) Wildland Plants: Physiological Ecology and Developmental Morphology. Society for Range Management, Denver.
Burrill L.C, S.A Dewey, D.W. Cudney, B.E. Nelson and T.D. Whitson 2005. Weeds of the West. Washington State University Extension Publication.
Flora of Alberta. 1983. E.H. Moss (Author) and John Packer (Editor), University of Toronto Press.
City of Edmonton. 2005. Sediment and Erosion Control Guidelines. January 2005.
Government of Alberta. A Guide of Stakeholder Engagement in Support of Integrated Land Management. ISBN No.978-0-7785-8901-3 (Pub. No. I/421).
Government of Alberta. What is Integrated Land Management, ISBN No. 978-0-7785-8899-3 (Online Edition), Pub. No. I/419.
Miller, F.P. and Wali, M.K. 1995. Soils, land use and sustainable agriculture: A review. Can. J. Soil Sci. 75:413-422.
Soil Classification Working Group. 1998. The Canadian System of Soil Classification, 3rd ed. Agriculture and Agri-Food Canada Publication 1646, 187 pp. ISBN 0-660-17404-9

World Bank. 2008. Sustainable Land Management Sourcebook. ISBN 978-0-8213-7432-0 — ISBN 978-0-8213-7433-7 (electronic).
Stubbendieck J.L, S.L. Hatch and L.M. Landholt 2004. North American Wildland Plants: A Field Guide. University of Nebraska Publication. 6 th edition.
Valentine, J.F. 1989. Range Development and Improvements. Brigham Young University Press, Provo, Utah.

Websites (Management Guides, Organizations):

Agriculture and Forestry Agro-Climatic Information Service: http://agriculture.alberta.ca/acis/
Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. A report by the High-Level Panel of Experts on Food Security and Nutrition. United Nations Food and Agriculture Organization, July 2019. http://www.fao.org/publications/card/en/c/CA5602EN
Alberta Agriculture and Forestry Website: Alberta Soil Information Centre and Soil Viewer: https://www.alberta.ca/alberta-soil-information-viewer.aspx
Alberta Environment and Parks: https://www.alberta.ca/environment-and-parks.aspx
Alberta Environment and Parks – Fish and Wildlife: http://aep.alberta.ca/fish-wildlife/default.aspx <ul style="list-style-type: none"> Species at Risk Information: http://aep.alberta.ca/fish-wildlife/species-at-risk/default.aspx
Alberta Environment and Parks. Range classification and survey tools. https://www.alberta.ca/range-classification-and-survey-tools.aspx
Alberta's Land Use Framework available at: https://www.landuse.alberta.ca/PlanforAlberta/LanduseFramework/Pages/default.aspx
Alberta North American Waterfowl Management Plan (NAWMP) Partnership: https://abnawmp.ca/
Alberta's Wetland Policy link: http://aep.alberta.ca/water/programs-and-services/wetlands/alberta-wetland-policy-implementation.aspx
Confined Feeding Operations in Alberta: https://www.nrcb.ca/confined-feeding-operations
Cows and Fish Program: http://cowsandfish.org/ <ul style="list-style-type: none"> Recovery Strategy Guides for Various Natural Subregions http://www.foothillsrestorationforum.ca/recovery-strategies/ Riparian and Wetland Classification

<ul style="list-style-type: none"> • http://cowsandfish.org/publications/technical.html • Riparian Areas and Management http://cowsandfish.org/publications/management.html
Forest Management Planning: https://www.alberta.ca/forest-management-planning.aspx
Land Management in Alberta: https://www.alberta.ca/land-management.aspx
Municipal Land Use Planning: https://www.auma.ca/advocacy-services/programs-initiatives/municipal-planning-hub/land-use-planning-alberta/municipal-land-use-planning
Prairie Conservation Forum - Multi-stakeholder forum with key publications, land use data (including GVI and current native grassland extent and change over time), resources and literature related to grassland conservation and management. http://www.albertapcf.org/
Regulatory History of Alberta's Industrial Land Conservation and Reclamation Program. Canadian Journal of Soil Science (2012). https://www.nrcresearchpress.com/doi/10.4141/cjss2010-033#.XVWKxOhKg2w
"Water for Life ": https://www.alberta.ca/water-for-life-strategy.aspx
Indigenous Peoples Consultation: https://www.alberta.ca/indigenous-consultations-in-alberta.aspx https://www.aadnc-aandc.gc.ca/eng/1100100020670/1100100020675

Legislation:

Provincial Legislation: www.qp.alberta.ca/ <ul style="list-style-type: none"> • <i>Agricultural Operation Practices Act</i> • <i>Agricultural Operations, Part 2 Matters Regulation</i> • <i>Alberta Land Stewardship Act</i> • <i>Environmental Protection and Enhancement Act</i> • <i>Forests Act</i> • <i>Forest and Prairie Protection Act</i> • <i>Municipal Governments Act</i> • <i>Provincial Parks Act</i> • <i>Public Lands Act</i> • <i>Public Lands Administration Regulation</i> • <i>Soil Conservation Act</i> • <i>Species at Risk Act</i> • <i>Water Act</i> • <i>Weeds Act</i> • <i>Wilderness Areas, Ecological Reserves, Natural Areas, and Heritage Rangelands Act</i>

- *Wildlife Act*
- *Wilmore Wilderness Park Act*
- *Etc.*

Federal Legislation:

<https://www.canada.ca/en/environment-climate-change/corporate/transparency/acts-regulations/acts-administered.html>

- Canada Wildlife Act
- Environmental Protection Act
- Fisheries Act
- Migratory Birds Act
- Species at Risk Act
- Etc.

7. SUMMARY

This document describes the knowledge requirements, work experience, skill set and performance expectations for professional practice within the *Land Conservation and Management* PA for the Agrolgy profession. It provides direction to members of the Alberta Institute of Agrolgists who are practicing or who wish to practice within this PA to ensure they are qualified to conduct work in this area.

Members practicing within this PA are required to review this document and assess their knowledge, work experience, skill sets and performance against the requirements and expectations herein. Where deficiencies are noted, it is expected that members will develop a plan to address these deficiencies through their individual continuing competence programs. Members are expected to understand the limits of their own knowledge and expertise and seek additional advice and professional support as required.

This practice standard will be one of the tools the Institute will use in conducting practice reviews or investigating a complaint about a member. It is the responsibility of the member to be aware of and comply with this practice standard.

APPENDIX A

The following General Practice Standard applies to all registered members of the AIA. This General Practice Standard is to be adhered to as well as this detailed practice standard for the *Land Conservation and Management PA*.

General Practice Standard for All Registered Members of the Alberta Institute of Agrologists

The General Practice Standard applies to all registered members of the Alberta Institute of Agrologists. The purpose of the document is to describe the duties and responsibilities that are incumbent upon each member of the profession. It is the responsibility of each registered member to conduct themselves in accordance with these standards. Registered members will be measured against these standards by the Institute, the public, employers, clients and colleagues. The Standard describes the values of the Institute and the profession, and the expectation for each registered member.

Professional Responsibility

Each registered member of the Alberta Institute of Agrologists (AIA) is required to uphold the standards and reputation of the agrology profession and professional principles.

Indicators

The registered member has a duty to protect the public and to conduct his or her work with an appropriate standard of care.

Standard of care

Standard of care is the legal duty to exercise the watchfulness, attention, caution and prudence that a reasonable professional in the same circumstances would exercise. If a professional's actions do not meet this standard the professional may be found negligent or to have committed unprofessional conduct.

The registered member is personally responsible and accountable for ensuring that his or her agrology practice and conduct meet the requirements of the practice area(s), practice standards, current legislation, regulations and policy.

The registered member will practice with honesty, integrity and respect, and comply with the AIA's Code of Ethics.

The registered member will sign or co-sign a report only if he or she is willing to accept full responsibility for the contents of the report.

The registered member may delegate portions of the work to competent practitioners under the registered member's direct supervision. The registered member will accept responsibility for that work and provide additional quality assurance/quality control to

determine the sufficiency of that work. Registered members will not sign any document for which they will not take full responsibility for the contents of the document.

The registered member will hold the public interest paramount and endeavour to put service above gain and excellence above quantity.

Competency

The registered member will practice only in an area(s) where the member has demonstrated competence.

Indicators

The registered member will only practice unsupervised in the practice area(s) where the member's education, skills, and experience fulfill the practice area qualifications and the registered member believes he or she is competent. If a registered member's education, skills, and experience do not meet the requirements of the practice area, the member will practice *only* under the direct supervision of a qualified, registered professional who is competent to do the work and who will give appropriate direction to the registered member.

The registered member, if called upon by the profession, a judicial review or a court ordered request, must be able to clearly demonstrate the knowledge and skillsets gained to enable them to practice in any practice area(s) in which the member deems himself or herself competent to practice.

The registered member will undertake continuing professional development (CPD) with the majority of the CPD hours directly relevant to his or her practice area(s). The registered member commits to reporting his or her CPD activities on the member profile as activities are completed.

The registered member will continually update his or her scientific and standard industry practice knowledge related to the member's practice area(s).

The registered member will demonstrate critical thinking when planning, implementing and evaluating all aspects of the work and making any recommendations as a professional.

The registered member is able to show his or her reasoning in reaching decisions through accurate and clearly written documentation.

The registered member will advise the AIA of any changes to his or her practice area(s), particularly when a new practice area is chosen. The registered member will specify the knowledge and skills that have been acquired to support work in the new practice area.

Provision of Service to the Public, a Client or an Employer

The registered member will promote the qualified, competent and ethical professional role and accountability of Agrologists to the public, other professionals, and themselves.

Indicators

The registered member will prepare accurate, concise and clearly written reports and correspondence that are appropriate for the intended audience.

The registered member will communicate clearly and respectfully with a variety of people, including his or her employer, colleagues, clients, members of the public and regulators.

The registered member will advise the client if the work is outside of his or her practice area(s) and if the member will be unable to fulfil the terms of reference for the work.

The registered member will make a referral to seek advice, and enter into collaborations with other professionals in situations which require expertise that extend beyond the member's competence.

The registered member will avoid situations where a conflict of interest exists or where the duties and loyalty owed by a member to one party likely will be, is, has been, or perceived to be, in conflict with the duties or loyalties the member owes to another party.

The registered member will extend public knowledge of their area of expertise whether it is in agriculture, the environment, food sciences or life sciences, and promote factual and accurate statements on matters regarding these areas.

Stewardship

The registered member will advocate and practice good stewardship of all agricultural and environmental resources based on sound scientific principles.

Indicators

A registered member will consider monetary issues, social values, rational application of sound science, lesson of valid experiences, economic impacts to the geographic region, and impacts on future generations when conducting his or her work.

A registered member will inform the client or employer of any action planned or undertaken by the client or employer that he or she believes is detrimental to good stewardship or in breach of known legislation, regulations or policies.

Safety

The registered member understands his or her obligation for promoting public and worker safety and considers the health of the environment, health of the consumer, industrial safety, construction safety and the general operational safety of projects.

Indicators

A registered member will demonstrate concern for the immediate and long-term direct effects of agricultural and environmental practices on the safety of workers by being aware of, and evaluating risks.

A registered member will balance the claims of producers and needs and wants of a consuming public against the potentially competing claims for safety of the environment and the interests of individuals and businesses affected by their proximity to agricultural operations. The registered member is aware that the public expects and demands a safe supply of food, not only for current use but also for future generations.

APPENDIX B

CODE OF ETHICS

“The Profession of Agrology demands integrity, competence and objectivity in the conduct of its members while fulfilling their professional responsibilities to the public, the employer or client, the profession and other members.”

Members should be aware of any other laws and responsibilities in regard to other business and voluntary activities which may impact their ethical conduct.

Guidelines to the Ethical Responsibilities of Agrologists

The purpose of the following guideline is to clarify the intent of the Code of Ethics and the understanding of the nature of the professional obligations that arise out of the document. Throughout, it is recognized that membership is a right granted by the public to the regulated member (member) to practice Agrology in such a way that the public interest is served. It is also understood that, just as the individual member has an obligation to conduct business in an ethical and competent manner, colleagues and the Institute share the moral responsibility of protecting their Agrologists and the field of agrology against any unfounded and unjust criticisms.

1) Among the regulated member’s professional obligations to the public are the responsibilities:

a) To practice only in those practice areas where the member’s training, ability, and experience make him/her professionally qualified.

The public has given a right to the Professional with the trust and expectation that those activities are undertaken with competence. A member will not make misleading statements regarding his/her qualifications. A member will actively pursue professional knowledge upgrading specific to their practice area(s) in order to remain competent in his/her field of expertise. A member will make referrals to seek advice, and enter into collaborations with other professionals in situations which require expertise that extend beyond the individual member’s competence.

b) To express a professional opinion only when it is founded on adequate knowledge and experience, and where the member has an understanding of the situation and context in which this opinion is being offered.

Members must clearly distinguish among facts, assumptions and opinions in their preparation of reports and professional statements. Professional opinions should be clearly stated and should include clear indications of the constraints that apply to the opinion, and the relevant qualifying circumstances, facts and assumptions.

Members should exercise care that work they conduct cannot in any way be seen to support or make possible any morally suspect or illegal purposes. In the extreme, this caution might cause a member to refrain from association with enterprises or individuals whose objectives and probity are subject to questions.

Members who act as expert witnesses and provide opinion evidence for the purpose of litigation should not take a partisan position. Agrologists must provide evidence as impartial experts and must not do so as advocates of their client or employer. While acting as an expert witness, a member’s role is to assist the judge/jury/panel with technical matters which are beyond the expertise of the tribunal.

c) To advocate and practice good stewardship of all agricultural and environmental resources based on sound scientific principles(s).

Stewardship requires making complex choices based on a variety of relevant but not necessarily compatible factors. Good stewards must consider, but not necessarily be limited to: monetary matters, social values, the rational application of sound science, the lessons of valid experience, impacts on the economic health of the community at large, and the impacts on future generations. Because of the position of public trust, a member's duty is to uphold professional principles above and beyond the demands of employment.

Conflict may arise between a member's duty to uphold professional principles and the duty to serve the needs of an employer or a client. Members must distinguish between the role they play as Agrologists and the role management plays. Managers have prerogatives and privilege for making decisions based on a wider range of constraints than those that might be appropriate for an Agrologist. The member must not confuse the role of providing others with information upon which to base a decision with the role of being responsible for making the decision him or herself.

If a member believes there is a serious conflict between the requirements of employment and a member's professional principles, a member should inform/or consult the Registrar or any other appropriate persons about the conflict. Members may seek advice and support for the position from the Institute.

d) To extend public knowledge of agriculture and the environment and to promote truthful and accurate statements on sustainable agricultural systems and environmental matters.

Members should strive to develop appropriate involvement with schools, agencies and organizations insofar as such outreach activities can help ensure the dissemination and discovery of sound and appropriate agricultural environment knowledge. Members should attempt to correct misleading or erroneous statements on agricultural matters whenever and wherever such statements are encountered.

e) To have proper regard for the safety of others in all work.

Members must understand their obligation for promoting safety. Members should consider the impact the exercise of their professional duties will have upon the health of the environment, industrial safety, and health of the consumer, construction safety and the general operational safety of completed projects. Members must demonstrate concern for the immediate and long-term direct effects of agricultural and environmental practices on the safety of workers by being aware of and evaluating risks.

The public expects and demands a safe supply of food, not only for current but also for future generations. Members must balance the claims of producers and consuming public against the potentially competing claims for safety of the environment and the interests of individuals and businesses affected by their proximity to agricultural operations.

2) A member's responsibility to the client or Employer is:

a) To act conscientiously and diligently in providing professional services.

Members should endeavour to put service above gain and excellence above quantity. If a member becomes aware of errors or omissions in his/her work, he/she must report the same to his/her client or employer, and immediately work to remedy such errors or omissions.

Expect as required by law, to maintain the confidentiality of client and employer information unless given the explicit consent of the client or employer.

b) A member should consider all information received from a client or employer as confidential unless such information is in the public domain.

Information obtained during and specific to a professional contract situation is confidential and must not be disclosed to others or used by the members outside that contracted situation without the consent of the client or employer. However, technical expertise gained by a member through work may be used in subsequent projects without consent from other parties.

c) To obtain a clear understanding of the client's or employer's objectives.

Members must clearly understand the objectives of the client or employer. Members must make inquiries regarding such objectives to ensure that professional services are provided in the context of complete and accurate information. It is recommended that all oral communication that is material to the delivery of professional services be confirmed in writing.

d) To inform the client or employer of any action planned or undertaken by the client or employer that a member believes is detrimental to good stewardship or in breach of known laws or regulations.

It is a member's duty to advise a client or employer of the consequence of questionable actions and inform the client or employer of the facts that lead the member's belief that the action is detrimental to good stewardship.

e) To refuse any assignment that creates a conflict of interest.

A conflict of interest exists where the duties and loyalty owed by a member to one party are, are likely to become, or to a reasonable, informed and objective observer would appear to be in conflict with the duties or loyalties the member owes to another party.

A member should not accept an assignment in which he/she has a personal or business interest unless that interest is disclosed and approved by the client or employer.

Where a member is in a position of providing professional services to more than one party with different interests in the same or related matter, the member must explain the significance of acting for more than one party to each of the affected clients or employer(s) (the parties) and obtain the written consent of the parties to continue working for more than one party. If any of the parties fail to give their consent the member must then determine whether it is possible to act on behalf of a subset of the parties without conflict. If conflict cannot be eliminated by acting only on behalf some of the parties, then the member should advise all the parties that he/she cannot continue to act for any of them in the matter that generates the conflict of interest.

Members must also advise the parties that no information received in connection with the common matter from the one can be treated as confidential so far as any of the other parties are concerned.

f) To not accept compensation from more than one employer or client for the same work, without the consent of all.

Members need to distinguish between the data or product, which becomes the property of the client; and the process or technical experience, which remains the property of the member.

3) The Agrologist's Responsibility to the Profession is:

a) To inspire confidence in Agrology by maintaining high standards in conduct and work.

A member must keep in mind that the work of an Agrologist is continuously open for public scrutiny and it is the responsibility of each individual to build and maintain a positive image of the field and the profession. Not only must a member perform his/her duties of employment to a high level of excellence, but the conduct of that member must also be of high standard.

b) To support activities for the advancement of the profession.

Members have an obligation to participate in the activities of the Institute (i.e., meetings, elections, holding office, mentoring) as the individual members situation and opportunities allow.

Members need to be constantly aware they are Agrologists and should, by their conduct, provide a positive image of the profession. Each member must be prepared to personally promote Agrology in personal contacts and communications, and to participate in specific promotional initiatives organized by the professional organizations.

c) Where a member believes another individual may be guilty of infamous or unprofessional conduct, negligence or breach of the Agrology Profession Act or bylaws:

to raise the matter with that individual and

if not resolved or if otherwise deemed necessary to inform the Registrar of the Institute in writing.

A member should ensure that the facts and understanding of the misconduct are correct. Consultation with a colleague or Registrar is encouraged if it may help clarify the issue. Members should make every effort to raise and resolve the issue in a candid and professional manner. Agrologists should note that only in exceptional circumstances is it inappropriate to raise such a matter with the other member if done courteously and politely.

d) To state clearly on whose behalf professional statements or opinions are made.

A professional opinion or statement prepared by an Agrologist is for a specific situation and set of circumstances. The content of a professional opinion should include the context in which it is made.

e) To sign and seal only those plans, reports, and other documents for which the members are professionally responsible and which were prepared by or under the direction of the member.

Members who affix their seal and/or signature assume responsibility for and understand the document. The responsible professional must have exercised sufficient control and association with the document so he/she can sign and seal the document based on personal knowledge. Members will not associate themselves with documents, reports or statements that misrepresent, distort or omit material facts. Members should familiarize themselves with information that details the procedures and protocols that are associated with the use and practice of sealing professional works.

4) A member's professional responsibility to other members is:

a) To abstain from undignified or misrepresentative public communication with or about members.

Conduct between members should be characterized by respect, courtesy, honesty, and good faith. Direct and honest criticism between professionals is acceptable and professional debate is encouraged when characterized by fairness and propriety.

Members should be courteous when criticizing the work of another member and be as careful with a colleague's reputation as they would be with their own. Members will advise another regulated member in advance if they are reviewing/critiquing the other's work for a specific project. An individual member will not make statements or representations on behalf of the Institute without prior authorization.

b) To give credit for professional work to whom credit is due.

Members should always acknowledge the work and contributions of others when directly using that work in whole or in part. Members should clearly understand and appreciate that the unpaid use of marketable processes and technology developed by another member could jeopardise that other member's livelihood.

Members will follow the rules and law of copyright. Members will secure releases for any data, process (es), and publication(s) obtained from written or electronic sources.

c) To share knowledge and experience with other members.

Each member has a duty to new members and to the future of the Institute to be available as a mentor for new members. Individual members should offer and seek out constructive professional discussion and debates with colleagues to maintain a vibrant and progressive profession.

Code of Ethics, Revised September, 2010